

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
6 October 2005 (06.10.2005)

PCT

(10) International Publication Number
WO 2005/092521 A2

(51) International Patent Classification⁷: **B05D 7/24**

(21) International Application Number:
PCT/DK2005/000206

(22) International Filing Date: 23 March 2005 (23.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
PA 2004 00491 26 March 2004 (26.03.2004) DK
60/556,482 26 March 2004 (26.03.2004) US

(71) Applicants (for all designated States except US):
FORSKNINGSCENTER RISØ [DK/DK]; Frederiks-
borgvej 399, DK-4000 Roskilde (DK). **DANMARKS**
TEKNISKE UNIVERSITET [DK/DK]; Afdeling for
Forskning og Innovation, Anker Engelundsvej 1, Bygning
101A, DK-2800 Kgs.Lyngby (DK).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **WINTER-
JENSEN, Bjørn** [DK/DK]; Fuglsang Allé 126, DK-2700

Brønshøj (DK). **WEST, Keld** [DK/DK]; Bengtasevej 2,
3th., DK-2900 Hellerup (DK).

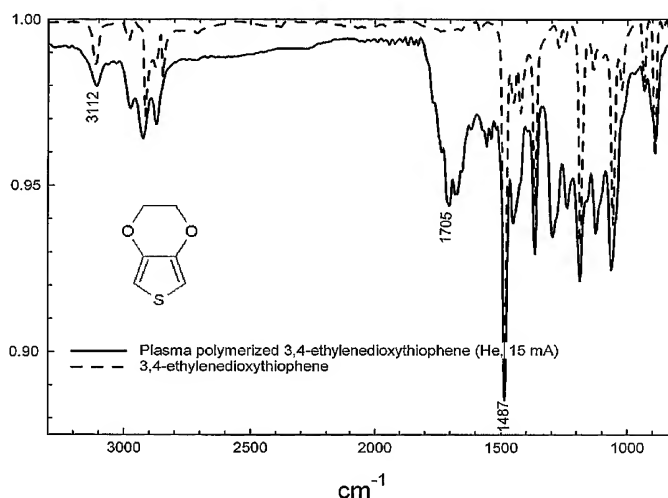
(74) Agent: **INSPICOS A/S**; Boge Allé 5, P.O. Box 45,
DK-2970 Hørsholm (DK).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ,
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA,
ZM, ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: PLASMA-POLYMERISATION OF POLYCYCLIC COMPOUNDS



(57) Abstract: The present invention relates to a method for the preparation of a layer of a plasma-polymerised material on the surface of a substrate, e.g. a substrate of a glass, an organosiloxane-based or polysiloxane-based material, silicon, fluoro-polymer (e.g. Teflon®), etc. The present invention also relates to novel objects and microstructured or micropatterned devices, e.g. by lift-off techniques, in particular such objects and devices that have layers of electrically conducting materials providing a conductivity of at least 0.01 S/cm. A feature of the invention is the plasma-polymerization of a compound including at least one polycyclic compound, said polycyclic compounds) comprising a non-aromatic heterocyclic ring fused to an aromatic or heteroaromatic ring or ring system. Examples of such compounds are 3,4-ethylenedioxythiophene (EDT), forming layers of poly(ethylenedioxythiophene) (PEDT), and piperonylamine, piperonyl chloride, safrole, 3,4-ethylenedioxythiophene, 3,4-ethylenedioxy-N-methylpyrrole, and 3,4-methylenedioxythiophene.



Published:

— without international search report and to be republished
upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.